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# Magna Charta Germanorum

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# Magna Charta Germanorum

**Bernhard Bierschenk**

*Abstract* The present discussion serves the explanation of the Carolingian steps taken to transform Germanic Barbarism into Western European Civilization. Instrumental is the inscription, engraved into the Shield of Roland of Bremen. Although covered by textual surface properties, its conceptual space is approachable on the basis of the (AaO) axiom. Since corresponding state attractors make up geometric landscapes, they are building up their own unique development of micro structures. A treatment of the resulting singularities allows for the processing of a sophisticated relationship between the Statute of Roland and its Shield inscription. The capacity to work towards unification of the symbolism of Roland and the inscription is shown to converge on the global state attractors of the dimensions of intention and orientation. The final attractor of the configuration of orientation has converged on *Moral strength*. The information captured conceptually by the configuration of intention has resulted in the extraction of *Nobility* out of the orientation space. Hence, what the meaning of the inscription exactly is, has been established and made visible through the naming of the final and all-inclusive state termini, which carry the deep commonalty of intention and orientation. Only biological mechanisms have this property due to their pattern convolution.

The kingdom of the Franks was among the last surviving Germanic kingdoms from the Migration Period. The Franks (Latin: Franci or gens Francorum) were a gathering of Germanic peoples, whose name was first mentioned in the 3rd century by Roman sources. They lived at the edge of the Roman Empire. After it collapsed, the Franks became recognized by the Catholic Church as successors of the old rulers of the Western Roman Empire. Their king Karl tried to overcome the Barbarian brand of his kingdom by becoming a Christian and by marrying the Empress Irene who at the time ruled Rome. He proposed to Irene in 802. However this kind of connection did not materialize (Durant, 1967, p. 232).

In continuation of the ancient Roman institution of the “Inquisitio” in his territory leading citizens were commissioned to investigate the taxable assets of the Franks. Under oath they had to make a truthful statement, i.e. to make a “veredictum” about the actual conditions. Further, this “laurata” developed into the “iurata”, i.e. oath. A sophisticated organization of “counties”, governed by “comes”, as well as by *Markgrafen* (Margrave) of dangerous boundary markers, like the duke Roland of Ronncevalles, were supervised by so called “missi dominici” who functioned as connecting link between the central government and the regions or territories. The “capituare missorum”, which introduced this office, was the basis for the origin of the *Magna Charta for the People*. It follows that the Germanic people got their legal privileges 400 years before the English *Magna Carta for the Aristocrats* was established (Durant, 1967, p. 223).

But approximately 65 capitularies that embodied Karl’s legislation were not in themselves a closed work like the Roman legislation. On the other hand, the capitulars contained laws on the administration of agriculture and trade as well as money. Of particular importance were the king’s legal efforts to guarantee free peasantry and specifically the protection of the peasants from serfdom. A “capitulare de litteris colendis” was addressed to all monasteries with the request to build Cathedrals and Monastery schools in which all the servants, freedmen and free-men could devote equal importance to reading and writing. For example, the Bishop of Orléans set up schools in all his communities, which welcomed all children and taught them free of charge.

Not all capitularies were laws. Some contained replies, requests and instructions. Others were addressed to officials and contained moral advice. For example, one article states: “Everyone must serve God in the best of his ability and walk according to his commandments, for the Lord Emperor cannot exercise personal supervision over every person” (Durant, 1967, p. 224). Thus, through his ‘Magna Charta for the People’, Karl took a first step to transform Germanic barbarism into a European civilization and his Empire into a territory that surpassed might of Byzantine.

### *Roland von Bremen*

The Song of Roland contains a tale of a military expedition of Karl into Spain. In the year 778 AD when his rear-guard was attacked by Basque inhabitants, his chief hero Hrodland, Count of the Marches of Brittany was annihilated on the 15th of August. There are indications that the earliest songs arose among the Breton followers but spread to Maine, to Anjou, and to the Normandy. Simple, almost bareness in style, the Song has its place as the truly national poem of the modern world.

With the help of Roland among others, Karl bestowed a governmental structure and unifying faith upon Western Europe which had been torn by religious and political strife for years, and he managed to bring all of the people between the Vistula and the Atlantic, the Baltic and the Pyrenees, nearly all of Italy and much of the Balkans under his rule.

### *Symbolism of the Roland Statute*

Roland (Frankish “Hrōþiland”, Latin: “Hruodlandus”, “Rotholandus”; Italian: “Orlando” as mentioned, died 15 August 778. He was the Frankish military leader who became one of the principal figures in the literacy cycle known as the Matter of France. The historical Roland was the military governor (Markgraf) of the Breton Marches and responsible for defending Karl’s frontier against the Bretons. His only historical attestation is to be found in Einhard’s *Vita Karoli Magni*, which notes that he was part of the Frankish rear-guard, killed by the rebellious Basques in Iberia at the Battle on the Roncevaux Pass. Einhard refers to him as *Hruodlandus Brittannici limitis praefectus* (“Roland, prefect of the borders of Brittany”), indicating that he presided over the Breton Marches, i.e., Francia’s border territory against the Bretons (Bremen Roland: *Wikipedia*, edited on 4 October 2018, at 20:57 (UTC)).

In Germany, Roland gradually became a symbol of independence of the growing cities from local nobility. Roland stands in the Market square of Bremen and is facing the Cathedral. Most of all, he is shown as the protector of the city and his sword is unsheathed meanwhile his shield is emblazoned with the two-headed Imperial eagle.

The statute was erected in Bremen in 1404. But numerous cities, mainly in the east of Germany have likewise this statute as symbol of civic liberty and freedom. They exist, mainly as town privileges under Saxon Law. Placed in front of the city hall, examples can be found in Central Europe, Croatia, and Latvia. Other examples have been created in South-America where a city in Brazil carries the name “Rôlandia” founded by German migrants. In the United States, the “Bremen Roland” in New York City, Las Vegas, Miami, Yellowstone, Niagara Falls and Yosemite National Park confronts the church as a representative of city rights. Thus, Roland has become a symbol for freedom and city rights not only of the New Europe but also of the New World.

*Crossing Borders*

Departing from the hypothesis that the potential of a “reversible synthesizing mechanism” (Hernández, Kay, & Leigh, 2004) has its validity with respect to the functioning of the (AaO) model, it can be used to make the *essence* (kernel) of the inscription recognisable. Further, it is expected that the (AaO) synthesis, in its most fundamental sense, can be studied scientifically and in strictly technical terms. To this point, a strategy will be outlined which provides mechanisms for the study of the intentional properties of the applied *Agent*-component of the (AaO) paradigm (B. Bierschenk, 2014). Thus, a method is provided which makes it possible to measure personal angles on a topic and also to represent them geometrically in the form of language space formations. In that way, it is made evident that graphemes as well as their rhythmic and clock-like assembling must be taken into account. Thereby it is shown that the language border can be crossed, which is leading beyond traditional semantic approaches. The original inscription is given prior to the chart of the unfolding flow dynamics.

> Vryheit do ik ju openbar / d’ karl vnd mënich vorst vorwar / desser stede ghegheuen hat / des danket god‘ is mï radt
>
> Freiheit ich euch offenbar / die Karl und mancher Fürst fürwahr / dieser Stätte gegeben hat / dessen danket Gott, das ist mein Rat

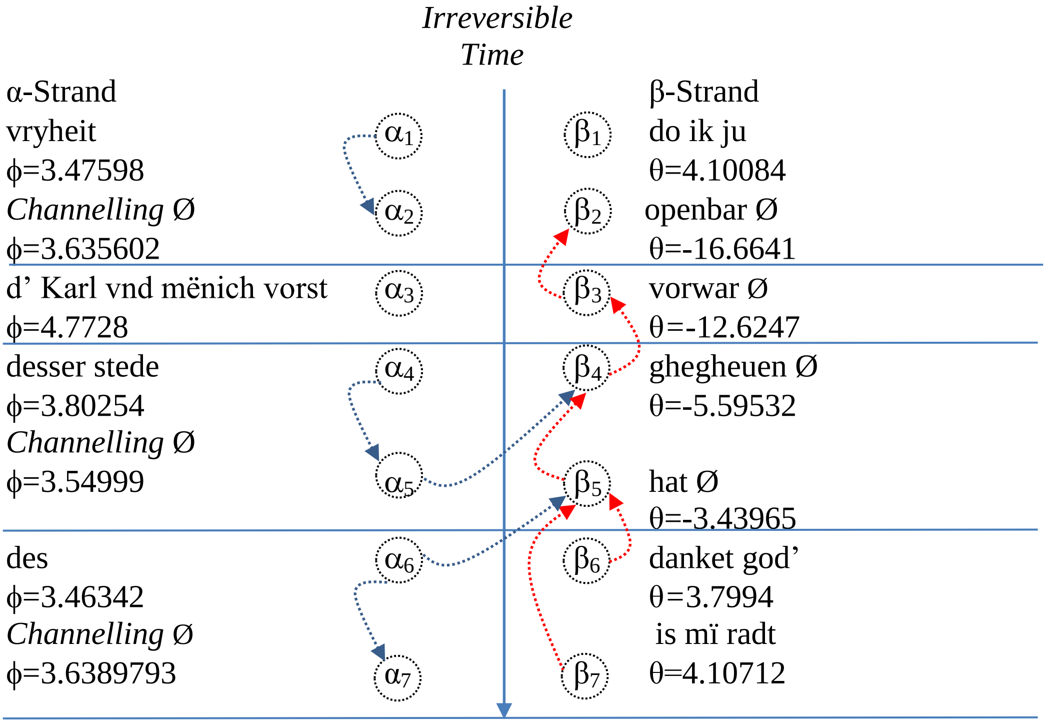

**Figure 1** *Coding protocol of the Roland inscription*

As indicated by Figure 1, the variables are marked with disks, however they are operating in mixed states. It is also observable that mixed states and the differential local segmentation of the (O) component through the β-Variables are dependent on the intrinsic spacing and timing. In addition to the α-Variables of the (A) component, (O) shows a sequential rotation in the β-Strand which is manifesting itself with the supplementation (S) Function of the (AaO) mechanism. Corresponding redundancies are produced according to the Formula $[\Phi=\theta_1-(\sqrt{\phi_2}+\sqrt{\theta_2}\ldots k)]$.

The matching local constraints are enforcing ($\beta_2$) to carry the shades of the magnitudes of the ($\alpha_5$) and ($\beta_7$) ($\beta_6$) ($\beta_5$) plus ($\beta_4$) and ($\beta_3$). In contrast, physically uncoupled agents like ($\alpha_3$) and objectives like ($\beta_1$) would simultaneously imply the absence of any covalent interaction. Over and above their relationship within the functional clause, dynamically uncoupled variables have little or no effect on the dynamics of the operating context, i.e. the helical development of the flow-fields. Through the coupling and entangling of the (AaO) units and processed free from semantic restrictions, the direction in the pattern movements and their angles of rotation become visible in Figure 2.

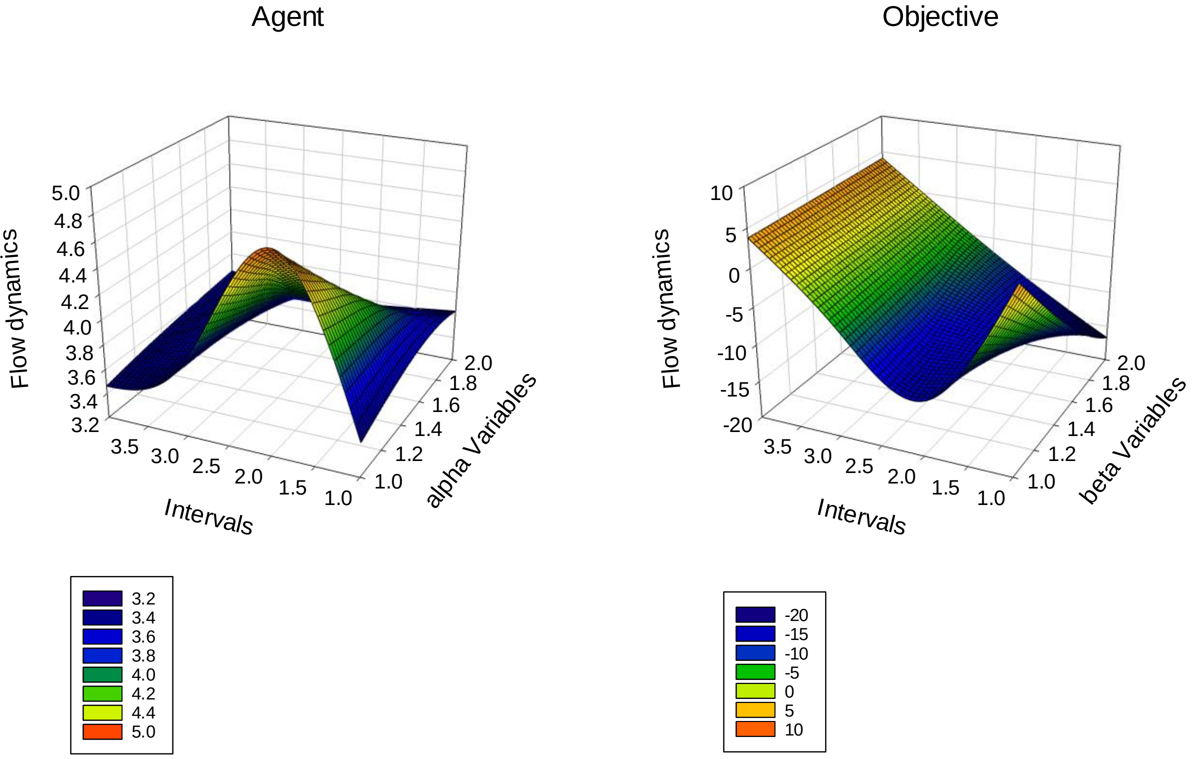

**Figure 2** *Resonance Spectrum*

Geometrically, it is shown how string movements are influencing the differences in the development of the shapes of the unfolding “Potential Energy Surfaces” (Wales, 2003). The term refers to spinning strings and their dynamic behaviour which depends on the way in which local minima are connected in space and time. On the kinetic level of text production, it means for the β-Strand that increasing depth implies increasing implicitness and consequently enlargement in the *sinking* of the textual objectives, marked with Ø. However, progress in understanding the biological nature and evolution of the trajectory has been shown to depend mainly on the functions performed by the evolving channels of Figure 1. As demonstrated, accessing their scope and import is approachable only through the observation and study of intermittent phase transitions. For example, when a large increase in critical acceleration can be observed, as in the second variable of the first interval, it points primarily to a high degree of integrated depth. To reiterate, a steep below zero corresponds operationally with lower rotational speed, but higher degrees of acceleration compared to non-negative expressions.

The special character of the channelling processes in the α-path has generated less complex channelling operations. Its degree of rotational speed is responsible for the analogous degrees of crystallisation. The path in the α-Strand illustrates only a slight fading of its textual agents and hence, faint contrasting differences in acceleration.

Observable is an impressive asymmetry in the perspectivation of the textual agents and objectives. At the steeps in the texture, where the variable dynamics is changing spontaneously and without any noticeable ordering influence from the outside, the effects of inherent order parameter have produced an impressive basin formation in the Objective space. The emerging changes in complexity are the result of critical changes in rotational acceleration. On the other hand, a large increase of critical speed can be observed in the resulting buckling of the Agent.

The particular fading of the textual agents is advancing between some clauses and has resulted in a path that is characterised by repeated *self-indication*. Since the measured speed is related to the transition in the flow fields, the (α) and (β) variables within a given number of intervals have been identified with the root (√) expression for the distance. When their parallel causation is summarised at some specific instances, a root can be identified with a morphological specification.

### ***The Ethics of Roland's Inscription***

Establishing a "Free Energy Surface" (Wales, 2003) means the generation of a fitness landscape, which requires that space and time become integrated by means of a fusion algorithm which has physical import, because it regards the measured space-time-relations as relations between mutually dependent composites. In particular, energy landscapes, obtained from dynamic and thermodynamic properties, allow a global view on the notion *structure*. Empirically, it will be demonstrated that the developed (AaO) formalism (B. Bierschenk, 1991) has the capacity to reproduce the structure contained in textual spaces. It follows that the non-commutative geometric properties (Connes, 1994; Greene, 1999, pp. 379-380) of grapheme-composites determine the basis for the distance-relations of the sub-spaces of a geometrically specified fitness landscape.

Just as for a basin, surrounded by mountains on all sides, any step in the fusion process is uphill. In general, a 'Free Energy Surface' is low dimensional and obtained from the corresponding 'Potential Energy Surface' by averaging over all other degrees of freedom for fixed values (i.e., structural quantities such as the radians) of the order parameters (X=Strain, Y=Shear) of the Figures 3 and 4 below. This averaging is repeated to provide the fusion dynamics (an interpolation) over the range for which the order parameters have physically motivated values.

As a rule, it is always possible to associate a state attractor with fused textual segments. In the realisation of a particular action, its description communicates the state that a system has been attracted to. The closeness of the description of an attractor, i.e., a "descriptor", to some other descriptor in space and time makes their fusion possible and transforms the entrenched point or state attractors into a structured transformation of termini (B. Bierschenk, 1993).

Once a configuration of termini has come into existence, its transformation through successive states imposes rigour on the process of naming and generates information specificity in the course of successive transformations. Thereby, shared termini are emerging, but they become specified through their "new" structural relations. Through the causal relationship between termini and the underlying structure, individual specificity makes evident that a particular space is contributing with uniqueness.

#### *Orientation*

The final or global state attractor ($T_{13}$) of the landscape of Figure 3 appears in the depth of the forefront at X=3, Y=3 with g=-26.31642, which carries *Moral strength* as its description. What has governed the establishment of this attractor is a process that swings around a validation of genuine appearance. This proposition is underlined through the state attractor, at X=5, Y=2, which appears above sea level with g=12.0073, which carries *Devotion*.

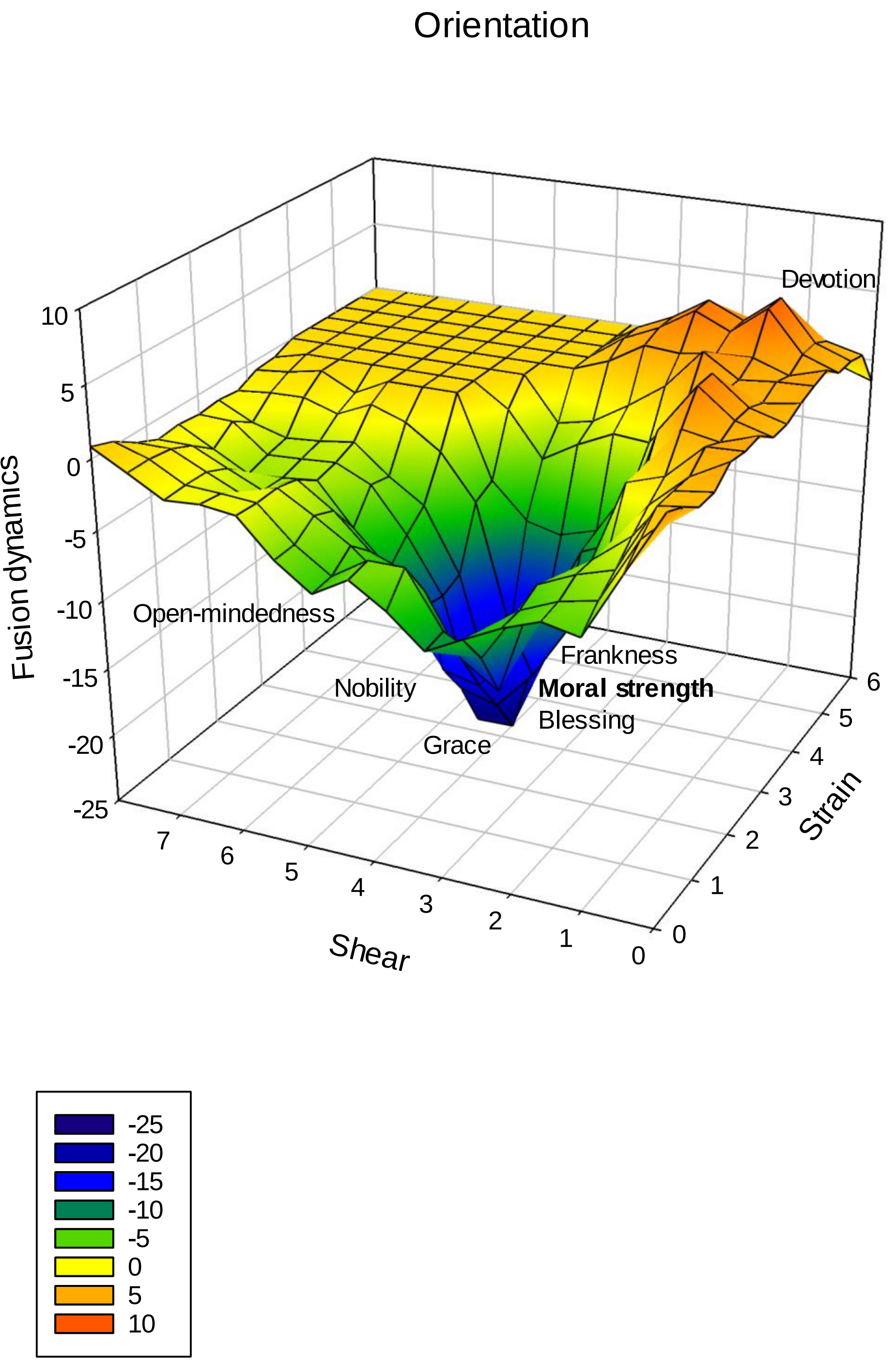

**Figure 3** *Naming Path of the Orientation Landscape*

Transformed at X=3, Y=2, the singularity carries g=-38.32377, whose descriptor is *Grace*. This genuine operational transformation implies that the underlying distance between *Devotion* and *Grace* means an appellation to *"Moral strength"* which had appeared at X=3, Y=3. It implies that Karl is expected to act and do things because it is right and to do justness without involved emotions. His true moral strength comes deeply from his spirit and not from ego-motions.

Roland, as his heralded military leader, is the *devoted* Count of the Aquitaine and was seen as an important factor in the defense of markers of Brittany at the Frankish borders. As a significant "Markgraf" he stood head and shoulders of his contemporaries in assisting Karl in the building of a true Frankish empire.

Obviously, the condition, appearing in the neighbourhood by means of the singularity at X=4, Y=2, which amounts to g=-21.65967, is marking a stage of resistance to unjust and consequently unworthy treatment of humans. This singularity is named *Nobility* and represents the intense sensitivity of the Frankish aristocracy to a need of trustworthiness. At some deeper level of processing, this means at X=2, Y=1 that g=-16.6641 is appearing in the depths of the Figure as *Blessing*, which is picking up a concern about the effects of being dedicated to the civilization of the European territories. Illustrative of the union of Church and State in Karl's Empire is the oath of loyalty given by his Bishops, Princes and Subjects.

At the right-hand side at X=4, Y=2 comes g=-12.6247 into view. This state is named *Frankness* and marks a belief in genuinely human values and faith in decent behaviour of others. Pointing into the future of a European civilization, giving expression in free speech, however in the traditional authoritative atmosphere and sacred thinking, emphasis is given on ethics and judgements based on religion. Finally, an intuitive sense of the meaning at X=2, Y=6, carrying g=-9.034907, gives the appearance of the concept of *Open-mindedness,* which picks up the idea of charity and justice to the poor, widows and orphans. Very much stressed is the responsibility of Bishops and Princes to adhere to Karl's Roman-inspired laws and to lead their subjects on the path to good work. Further, his open-hand policy is fundamental to his 'Magna Charta for the People' because its task is to protect the single individual against threatening by Nobles. Any unfair treatment, discovered by the *missi dominici,* was reversed and damages were paid (Durant, 1967, p. 223)

### *Intention*

This part of the analysis is focusing on the inclusive name of "Nobility". Its distinctiveness provides the condition for the treatment of multiple trajectories in the autonomously developing space of intention. Certain regions in the produced state space are shown to manifest critical factors of order. Further, the space of intention makes evident that a particular motif structure is present throughout the processing of the inscription. Founded on the (AaO) axiom (B. Bierschenk, 1984), the produced landscapes imply bi-componential and, consequently, complementary space descriptions, which are assumed to reflect noticeable structural invariants. By regarding these invariants as *named relations,* mutually dependent conceptual relations become manifest and concentrated on the emergence of certain behavioural limits.

The singularities of the landscape in Figure 4 are characterising regions, which are manifesting particular or novel changes. In searching the naming path for novel ideas, the description of the landscape may therefore be conceived of as an evolutionary tool. Moreover, by climbing on a naming path, differences in novel thinking appear in particular regions. Strong bottlenecks in the corresponding trajectory imply firmness and autonomous regions may allow for the processing of sophisticated differences.

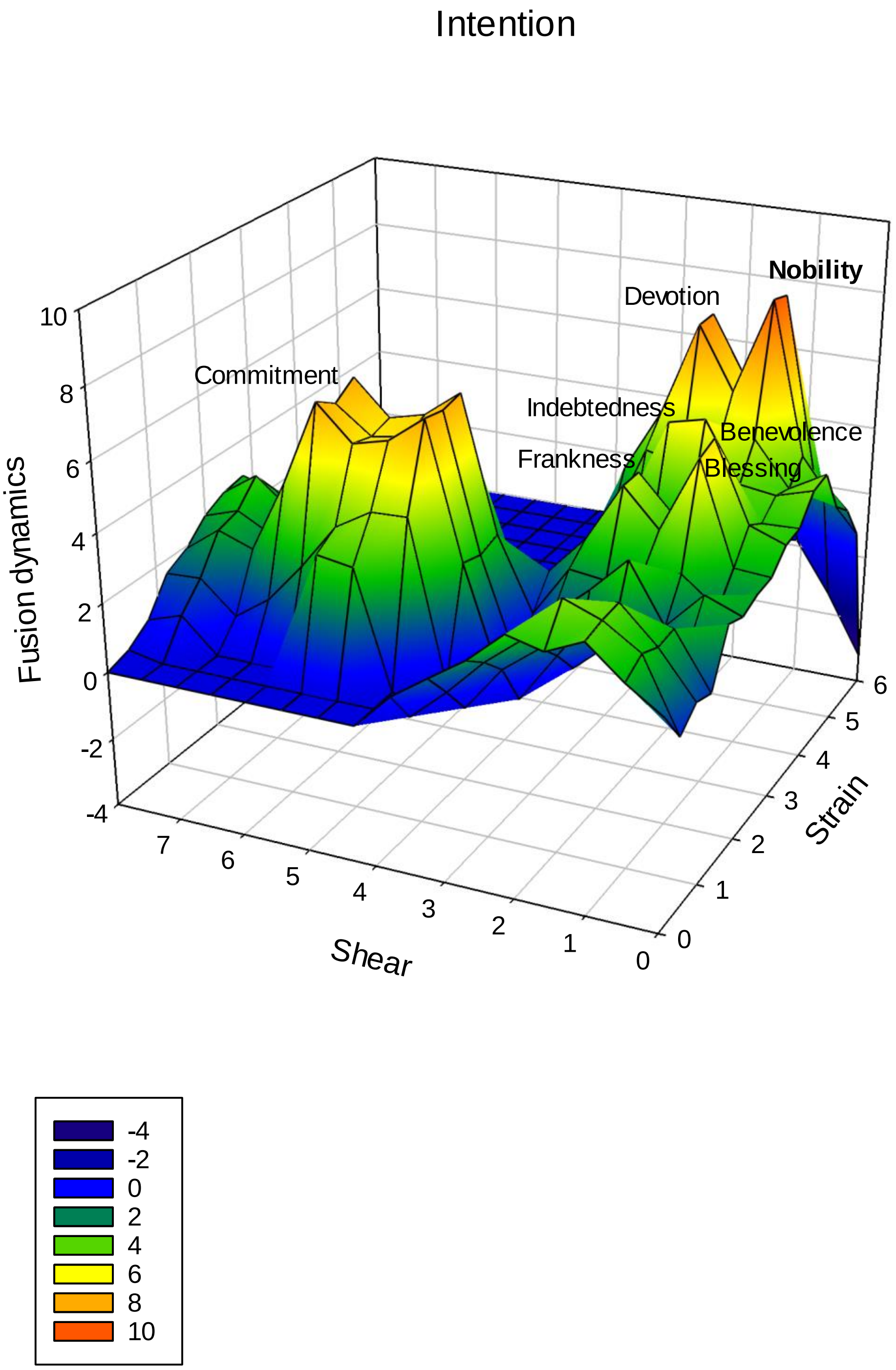

**Figure 4** *Naming path of the intention landscape*

Since every region is building up its own unique development, each microstructure will reflect this. Besides their capacity to work towards unification, they converge on the global state attractor of the intention dimension. As already mentioned, *Nobility* is extracted at X=2, Y=5 as the global state attractor of the intention dimension, which carries g=26.5118. It is manifesting the magnitude of distinctness of the Frankish nobles in a fluid administration of the Carolingian era. Their particular character is their lack of strong territorial connections.

This circumstance is especially pertinent, with reference to Karl’s exceptional ability to administer his vast territories. For that purpose trusted members of senior nobility have been engaged as imperial missi, often assigned to missions in pairs, one nominee pertaining to the members of the clergy while the other was taken from the lay nobility. This institution was genius and flexible because any one individual could be appointed successively as missus in many different affairs (commanding armies or leading missions to other courts) and areas of the empire (Franks, Carolingian Nobility, v4.0 Updated 24 May 2018).

The other dominating attractor appears at X=5, Y=2 with g=19.4094 and is now an intentional mark of *Devotion*. Karl in true commitment consecrated all of the German Kingdom and the entire Empire to “Maria” and declared the necessity of renewing the vows of Baptism and declared that a Marienplatz should be established in the centre of every German city or town.

Karl’s incomparable fondness was expressed with his piety to build a great and most beautiful chapel at Aachen. In honour of the Western Roman Empire, he could not procure marble columns for the building but had them brought from Rome and Ravenna as “Restorer of the Houses of God”. A further religious zeal of Karl was the relieve of the poor with alms. He used to send money across the sea to Syria, Egypt and Africa in compassion for the poverty of any Christians whose miserable condition in those countries came to his ears (http://www.salvemariaregina.info/Martyrologies/KarolusMagnus.html).

The distinctive feature of the singularity at X=3, Y=2, carrying g=11.8844, appears as *Indebtedness* at the mountain peak, just below devotion. Taking on responsibility and accepting the obligations of fair accountability appears in Karl’s *Capitulare de villis* which shows that diligence has been central to the king. By all other sacred and venerable places, Karl was fond of the Church of the holy Apostle Peter at Rome. His indebtedness made him pour into its treasury great wealth. Moreover, Karl showed great generosity towards the church and strove with all his might to restore the ancient authority and to decorate and enrich it above all other churches (Durant, 1967, p. 229).

The locality of the terminus at X=5, Y=8 carrying g=7.1024, marks the highest mountaintop at the left-hand side. *Commitment* is pointing towards the presence of societal justness. As early as year 800, the existence of individual rights and integrity must be seen as a sign of high measures of fairness. The immediate implication is an attested honour, which refers to honesty and resoluteness concerning the Christianization of Europe which however led to penalty and death of 4500 Saxons in the massacre of Verden (Durant, 1967, p. 219). As *Patricius Romanus*, Karl reached the height of his power in 800 when he was crowned “Emperor of the Romans” by Pope Leo III who in 799 AD fled to Paderborn where he met with Karl (Tack, 1969, p. 11). Because he was able to unite most of the European territories, he was also called the “Father of Europe” since for the first time after the classical Roman era he spurred the Carolingian Renaissance.

Through an evolutionary search for structural gears, the fusion mechanism of the (AaO) model has pointed towards an unexpected complementarity, namely that the theme of *Moral strength* has its complement in the motif of *Nobility*, which has appeared at X=2, Y=5. In conclusion, an overall symmetry has emerged over the changing landscapes, which gives evidence to the conceived importance of Karl’s self-determination. Hence, to master the functional disparity of the A- and O-components the way it is synthesised through the symmetry of their complementary landscapes, requires the capacity to establish their mountains and valleys simultaneously.

Thus far, the results outlined have shown that the formed strategy above all refers to the ethical dimension in the Carolingian world and its significance, which appears at X=5, Y=1 with g=7.3525. This singularity has extracted *Benevolence* as intentional problem of main human concern. In modern times, Hardin (1968) projected the need for a fundamental reformulation of humanitarianism when he wrote that an analysis of the problem with the "invisible hand" (e.g. of the governor) had uncovered the not generally recognised "principle of morality", namely that "the morality of an act is a function of the state of the system at the time the act is performed" by the governor. In other words, in order to understand the magnitude of Karl's engagement and achievements with his Christian education is to understand his functioning as promoter of Christian education.

In the *Admonitio Generalis* he initiated a great reform which had as its effect that nearly all settlements were founding schools. It was his desire that also the poorest of his subjects should have the opportunity to receive a Christian education, and this aspiration was realized within fifteen years when priests headed free schools in every village.

This very clearly marks the conceived obligations X=1, Y=1 with g=7.1116, namely in the terminus *Blessing*. Taking on responsibility and accepting educational obligations appears to be central. In his circular letter of 787, Karl issued the historical *Capitulare de litteris colendis* and states that the study of letter is an essential part of the religious life. Although good works may be better than knowledge, without knowledge good works are impossible.

As a result of the zeal of the Emperor in training missionaries to convert the still pagan German tribes, by the time of Karl's death, almost all of Europe was Catholic. His *Frankness,* as it appears at X=3, Y=1 together with g=4.7728, points to further comments of Karl. He with pain noticed that the letters addressed to him are too often too obscure and contain uncouth language. Therefore fears have arisen in him that if the skill to write correctly were lacking, the power of rightly comprehending *Scriptures* might be less than one would expect and thus invalidate his civilizing efforts.

## Discussion

Since Karl the Great has ruled the Western Roman Empire, the German people developed an ability to set up free imperial cities with their unique market districts. In later times these places were "protected" as free due to the Statue of Roland von Bremen. During the time Karl formed his empire, he considered it as his mission to establish its prominence and its unity. His intention was focussed on the well-being of his subjects as well as on the well-being of the church and religion and the development of a Roman inspired jurisdiction. Based on 53 military expeditions (Durant, 1967, p. 219) he conquered and absorbed border territories South, North and East with the purpose to turn their barbarian populations into Catholics.

However, founding new market places had very little effect on the economy of the Carolingian Empire because trading activities and food production were humbled by the Saracens in the South, Vikings in the North and the Aware and Saxon in the East. It was left to Karl to make Germania peaceful and civilized. His Christian power stretched from Rhine to Vistula and from Baltic to Danube. This vast land was anything but to conquest and to impose unification however floating. In its organization the German legal system, e.g. the Sachsenspiegel, was supplementary to the Roman constitutions. In working to unify the Catholic liturgy throughout his empire, Karl was eager to legislate in conformity with Roman practices.

Thus, if Karl's *Western Roman Empire* resembles the spirit of the Roman Catholic Church it is so because Rome was culturally the centre for the efforts of transition into the realm of civilization. In this sense Karl's empire and the Roman spirit of civitas are virtually indivisible. For this reason, approaching Rome as an embodiment of civilization represents a strategy whose promise is to provide the ethical foundation for the scientific study of the spirit of civilization. Granting the reign of the Roman spirit implies that "Rome" is more than a model of a civilized model state and means more than simply being an inhabitant of Rome. Therefore, it extends the exercise of its laws to the bordering territories, i.e. with the effect of a very strong influence on the entire Germanic Empire.

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*Accepted July 01, 2019*

## Appendix

### Table A1

*Coding procedure*

| * | | Graph | Rad | Basic | Sum | Var | Int |
|---|---|---|---|---|---|---|---|
| 30 | vryheit | 7 | 0.33598 | 3.14 | **3.47598** | | 1 |
| 40 | do | 2 | 0.32028 | | | 1 | |
| 50 | ik | 2 | 0.32028 | | | | |
| 50 | ju | 2 | 0.32028 | | | | |
| | | | 0.96084 | 3.14 | **4.10084** | | |
| 30 | * | | 5.5 | | **3.635602** | | |
| 40 | openbar | 7 | 0.67196 | | | 2 | |
| 50 | * | | 6.28 | | **-16.6641** | | |
| | | | 6.95196 | | | | |
| * | | | | | | | 2 |
| 30 | d' | 2 | 0.32028 | | | | |
| 30 | Karl | 4 | 0.32656 | | | | |
| 30 | vnd | 3 | 0.32342 | | | | |
| 30 | mënich | 6 | 0.33284 | | | | |
| 30 | vorst | 5 | 0.3297 | | | | |
| | | | 1.6328 | 3.14 | **4.7728** | | |
| 40 | vorwar | 6 | 0.66568 | | | 3 | |
| 50 | * | | 6.28 | | **-12.6247** | | |
| | | | 6.94568 | | | | |
| * | | | | | | | 3 |
| 30 | desser | 6 | 0.33284 | | | | |
| 30 | stede | 5 | 0.3297 | | | | |
| | | | 0.66254 | 3.14 | **3.80254** | | |
| 40 | ghegheuen | 9 | 0.34226 | | | 4 | |
| 50 | * | | 6.28 | | **-5.59532** | | |
| | | | 6.62226 | | | | |
| 30 | * | | 5.5 | | **3.54999** | | |
| 40 | hat | 3 | 0.32342 | | | 5 | |
| 50 | * | | 6.28 | | **-3.43965** | | |
| | | | 6.60342 | | | | |
| * | | | | | | | 4 |
| 30 | des | 3 | 0.32342 | 3.14 | **3.46342** | | |
| 40 | danket | 6 | 0.33284 | | | 6 | |
| 50 | god' | 4 | 0.32656 | | | | |
| | | | 0.6594 | 3.14 | **3.7994** | | |
| 30 | * | | 5.5 | | **3.638973** | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 40 | is | 2 | 0.32028 | | | 7 | |
| 50 | mï | 2 | 0.32028 | | | | |
| 50 | radt | 4 | 0.32656 | | | | |
| | | | 0.96712 | 3.14 | **4.10712** | | |

**Table A2**
*Roland_ Objective_ Transformation*

| *X* | *Y* | *Node* | *Value* | *Old German* | *German* |
|---|---|---|---|---|---|
| 0 | 1 | D | 0 | | |
| 1 | 0 | 1 | 4.10084 | do ik ju | ich euch |
| **1** | **1** | **$T_{1}$** | **4.10084** | **Intention** | **Intention** |
| 2 | 0 | D | 0 | | |
| 3 | 0 | 6 | 3.7994 | Danket god’ | Danket Gott |
| **3** | **1** | **$T_{2}$** | **3.7994** | **Thankfulness** | **Dankbarkeit** |
| *1* | *1* | $T_{1}$ | *4.10084* | *Intention* | |
| *3* | *1* | $T_{2}$ | *3.79940* | *Thankfulness* | |
| **3** | **2** | **$T_{3}$** | **7.9002** | **Indebtedness** | **Rechenschaftspflicht** |
| 4 | 0 | D | 0 | | |
| 5 | 0 | 7 | 4.1071 | Is mï radt | Ist mein Rat |
| **5** | **1** | **$T_{4}$** | **4.1071** | **Commitment** | **Verpflichtung** |
| *3* | *2* | $T_{3}$ | *7.9002* | *Indebtedness* | *Rechenschaftspflicht* |
| *5* | *1* | $T_{4}$ | *4.1071* | *Commitment* | *Verpflichtung* |
| **5** | **2** | **$T_{5}$** | **12.0073** | **Devotion** | **Treue** |
| 8 | 3 | D | 0 | | |
| 8 | 2 | 5 | -3.43965 | hat(des+danket god’+is mï radt) | hat(dessen+danket Gott+ist mein Rat) |
| 7 | 2 | **$T_{6}$** | **-3.43965** | **Benevolence** | **Wohlwollen** |
| 0 | 7 | D | 0 | | |
| 0 | 6 | 4 | -5.59532 | ghegeheuen(desser stede +hat(des+danket god’) | gegeben(dieser Stätte+hat (dessen +danket Gott) |
| **1** | **6** | **$T_{7}$** | **-5.59532** | **Magnanimous** | **Großzügigkeit** |
| *7* | *2* | $T_{6}$ | *-3.43965* | *Benevolence* | *Wohlwollen* |
| *1* | *6* | $T_{7}$ | *-5.59532* | *Magnanimous* | *Großzügigkeit* |
| **2** | **6** | **$T_{8}$** | **-9.034907** | **Open-handedness** | **Freigiebigkeit** |
| 5 | 0 | D | 0 | | |
| 4 | 0 | 3 | -12.6247 | vorwar(desser stede+ ghegheuen) +(desser stede +hat (des+danket god’ +des+is mï radt) | Fürwahr(dieser Stätte +gegeben+ diese Stätte+hat (dessen+danket Gott+das+is mein Rat) |
| **4** | **1** | **$T_{9}$** | **-12.6247** | **Frankness** | **Offenheit** |
| *2* | *6* | $T_{8}$ | *-9.034907* | *Open-handedness* | *Freigiebigkeit* |
| *4* | *1* | $T_{9}$ | *-12.62470* | *Frankness* | *Offenheit* |
| **4** | **2** | **$T_{10}$** | **-21.65967** | **Noble-mindedness** | **Edelmut** |
| 4 | 0 | D | 0 | | |
| 2 | 0 | 2 | -16.6641 | Openbar(d’Karl vnd mënich vorst+desser stede+vorwar (desser stede+ghegheuen (desser stede+hat(dessen +danket god’+des+is ismï radt ) | Offenbar(das Karl und mancher Fürst+dieser Stätte+ fürwahr +dieser Stätte+ gegeben+dieser Stätte +hat(dessen+danket Gott+das+ist mein Rat) |
| **2** | **1** | **$T_{11}$** | **-16.66410** | **Blessing** | **Segen** |
| *4* | *2* | $T_{10}$ | *-21.65967* | *Noble-mindedness* | *Edelmut* |
| *2* | *1* | $T_{11}$ | *-16.66410* | *Blessing* | *Segen* |
| **3** | **2** | **$T_{12}$** | **-38.32377** | **Grace** | **Gnade** |
| *5* | *2* | $T_{5}$ | *12.00730* | *Devotion* | *Treue* |
| *3* | *2* | $T_{10}$ | *-38.32377* | *Grace* | *Gnade* |
| **3** | **3** | **$T_{13}$** | **-26.31642** | **Moral strength** | **Moralische Stärke** |

**Table A3**

*Roland_Intention_Extraction of Terms from the O-mesh*

| *X* | *Y* | *A-komponent* | *O-komponent* | *English* | *Fusion* |
|---|---|---|---|---|---|
| | | *Pendel* | *Destination* | *Extraction* | *Value* |
| 1 | 1 | $T_1$: 1 → 2 | $T_{O16}$ | Blessing | 7.1116 |
| 3 | 1 | $T_2$: D → 3 | $T_{O7}$ | Frankness | 4.7728 |
| 3 | 2 | $T_3$: $T_{A2} \rightarrow T_{A1}$ | $T_{O3}$ | Indebtedness | 11.8844 |
| 5 | 1 | $T_4$: 4 → 5 | $T_{O2}$ | Benevolence | 7.3525 |
| 5 | 2 | $T_5$: $T_{A4} \rightarrow T_{A3}$ | $T_{O5}$ | Devotion | 19.4094 |
| 5 | 8 | $T_6$: 6 → 7 | $T_{O4}$ | Commitment | 7.1024 |
| 2 | 5 | $T_7$: $T_{A6} \rightarrow T_{A5}$ | $T_{O11}$ | Noble/mindedness | 26.5118 |

**Figure A1** Roland_Orientation_Mesh_Old_German

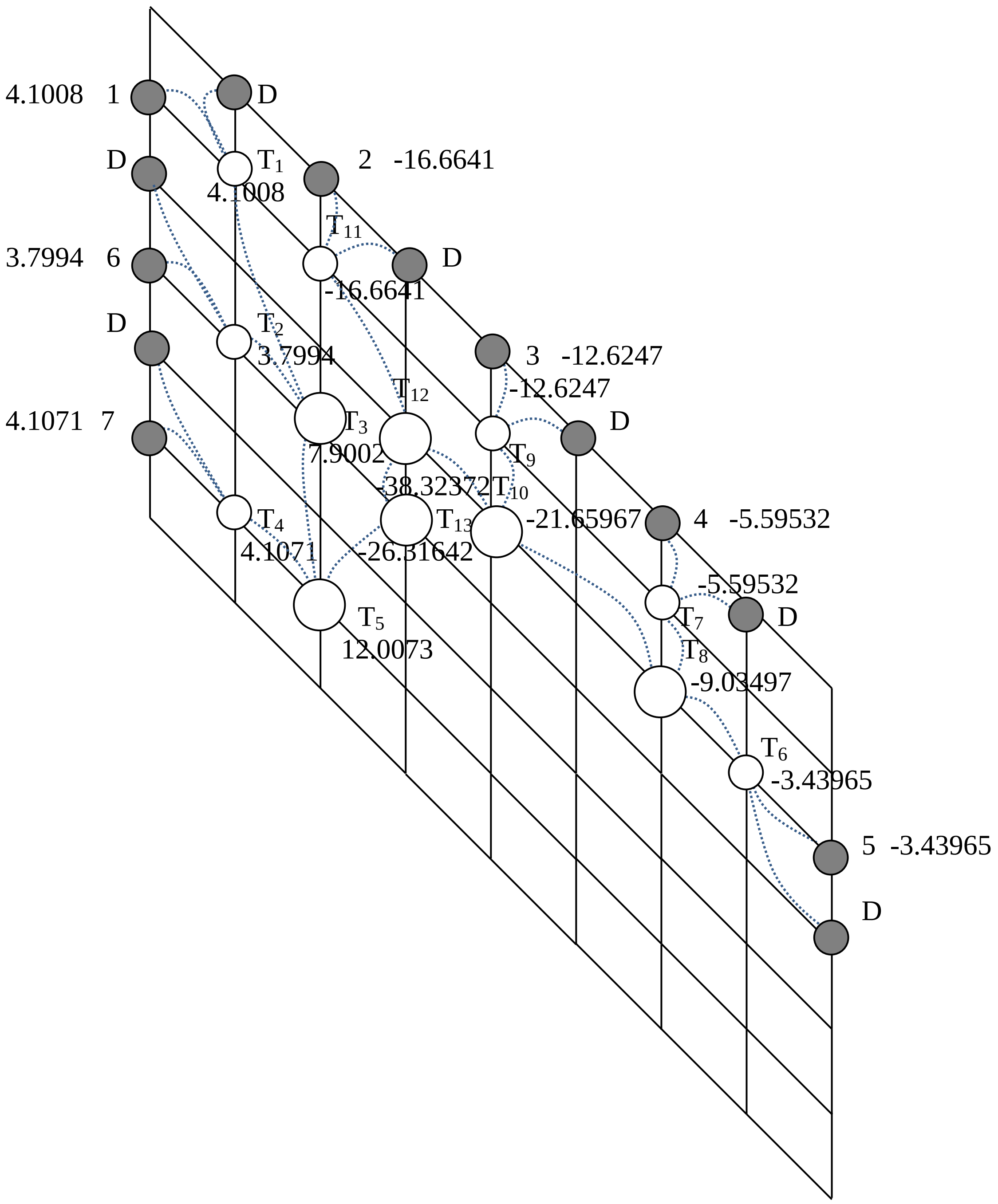

**Figure A2** Roland_Intention_Mesh_Old_German